

**Patent**

**TITLE**

System and Method for Performing an Electronic Transaction Using a Transaction Proxy With An Electronic Wallet

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**CROSS REFERENCE TO RELATED APPLICATIONS**

This application relates to applicant's co-pending applications having U.S. Serial No. 09/396,242, filed September 15, 1999, and U.S. Serial No. 09/190,933, filed November 12, 1998, incorporated herein by reference.

10 This application also relates to applicant's co-pending application entitled "System and Method for Performing a Transaction Using a Transaction Proxy With an Electronic Wallet," having U.S. Serial No. 60/168,031, filed November 30, 1999, to which the present application claims priority and which is incorporated herein by reference. This application further related to applicant's  
15 co-pending application entitled "System and Method for Performing a Transaction Using a Transaction Proxy With an Electronic Wallet," having U.S. Serial No. 60/205,318, filed May 18, 2000, to which the present application also claims priority and which is incorporated herein by reference.

20 **Field of the Invention**

The present invention relates generally to the field of electronic commerce. More particularly, the present invention relates to a method and system for performing a transaction using an interface-enabled communication device, such as a browser-enabled wireless telephone.

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**Background**

Conventionally, certain wireless telephone providers offer wireless phones that are capable of browsing at least defined aspects of the Internet. For example, the world's largest cellular telephone provider located in Japan provides a service  
30 that allows its subscribers to browse a subset of the Internet using a cellular telephone. The provided services uses Internet protocols, but allows access to a subset of the Internet that specifically complies with the cellular telephone

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provider's gateway specifications, which is HTML (Hypertext Mark-up Language) 1.0 (but with no frames, no Java and no "cookie" capability).

The service offered by the Japanese cellular telephone provider and similar services have been very successful. The number of subscribers to the service  
5 provided by the Japanese provider is expected to mushroom in the coming years to tens of millions.

Content providers, merchants, and others provide Internet content that is accessible using cellular-telephone-based browsers. For example, numerous financial institutions, such as banks, offer interactive content to cellular telephone  
10 systems that allow users to carry out activities such as examining their account balance, examining past transactions, and making payments and transfers through the system. In addition, other institutions, such as brokerages, provide interactive content in such systems that enable users to carry out various other activities, such as trading stocks, viewing general trading-related content, and other activities.

15 Despite their growing popularity, conventional mobile telephone Internet browsing systems have a disadvantages in connection with electronic commerce. One reason that electronic commerce is a problematic issue in conventional systems is the difficulty of using the remote actuating mechanism at the moment of purchasing goods or services using a mobile telephone device. For example,  
20 the entry by a user of shipping details, credit card number, and other information that is usually requested by merchants on their Internet sites is impractical using conventional wireless telephone Internet browsing systems.

## SUMMARY

25 Methods and systems according to the present invention include methods and systems for performing electronic transactions, including such transactions using a wireless communications device, such as a browser-enabled wireless telephone. In an embodiment, a merchant offers a product for purchase and displays selection data, such as a product code, along with the product. A  
30 customer views the product and logs into an electronic portal (e.g. provides identification information, such as a user name and password). The customer then transmits selection data, i.e., the product code, identifying the product to an

electronic portal from an interface-enabled communications device, such as a wireless telephone. The portal accesses a product database associated with the merchant offering the product. This access is carried out through check-out software residing on a web site of the merchant. The portal provides product  
5 information data from the database comprising information describing at least one aspect of the product (e.g., price, color, and size) to the wireless telephone. The customer views the information and indicates a decision to purchase the product.

When the portal receives a signal indicating the customer's decision to purchase, the portal accesses an electronic wallet associated with the customer and  
10 obtains shipping detail data and payment option data describing a desired means of payment for the product (e.g., credit card, debit card, or customer account). The portal then transmits payment authorization to a payment processor (e.g., the issuer of the customer's credit card), wherein the payment authorization comprises purchaser identifying data and merchant identifying data identifying the merchant.  
15 The portal also transmits shipping detail data and payment option data to the merchant, wherein the order information comprises payment option data and shipping detail data. The portal provides an order confirmation to the customer, and the merchant sends the product to the customer. The merchant receives payment via a settlement system with which the payment processor interacts. In  
20 other embodiments, the interface-enabled communications device comprises a telephone, a personal computer, or a personal digital assistant.

In another embodiment, a method for performing an electronic transaction is provided that comprises providing a shopping and check-out application in communication with a merchant server associated with a merchant. The shopping  
25 and check-out application is in communication with a product database of the merchant and an order fulfillment system of the merchant. An electronic portal is also provided that is in communication with the merchant server and a communications gateway. The communications gateway is in communication with an interface-enabled communications device operated by a user. The  
30 communications gateway may comprise a wireless telephone internet service provider or a fixed-line telephone internet service provider. An online

authorization and settlement gateway is also provided that is in communication with at least one financial institution that issues a payment account of the user.

A product code is received from the interface-enabled communication device, and the interface-enabled communications device is provided access to  
5 product data of the merchant associated with the product code via the communications gateway. User-identifying data and purchase-selection data is also received from the interface-enabled communications device.

The portal communicates with an electronic wallet associated with the user-identifying data. Transaction data is received in the electronic wallet from  
10 the interface-enabled communications device. Transaction data comprises payment method data, shipping data, payment account data, or a combination thereof. The portal requests payment authorization from a payment account issuer associated with the transaction data, and transmits the user-identifying data and the purchase-selection data to the order fulfillment system of the merchant.  
15 Confirmation of order receipt is received by the portal from the merchant. Settlement data associated with the purchase-selection data is provided to the payment account issuer so that the issuer may settle with the merchant via a settlement system.

In an embodiment, the user-identifying data and the purchase-selection data  
20 is received from the interface-enabled communications device in the communications gateway, and such data is then transmitted from the communications gateway to the electronic portal.

Also, in an embodiment, the operator of the wireless communications gateway (e.g., a mobile telephone network operator) and the operator of the portal  
25 (e.g., a bank, who also operates the electronic wallet application) enter into a joint venture in relation to the portal. The bank provides credit and financial services related to the joint venture, including the check-out software made available to the merchants, as well as providing the portal, and the mobile telephone network operator provides merchant relationships and a customer base. The mobile  
30 telephone network operator also contributes its knowledge of the name and addresses of its subscribers, as well as their credit ratings.

In such an embodiment, the portal serves as a Internet portal to Internet content providers that subscriber's to the network may access with the browsing function of their telephones. The portal comprises hyperlinks to the web sites of such content providers and includes hyperlinks to pages within the portal that includes content from at least some of the content providers. The content providers have contracted with the operator of the electronic gateway to provide content and to provide a commission payment to the operator of the electronic gateway when the operator's subscribers access the content and/or pay for services offered by the content provider. Moreover, the content providers have contracted with the operator of the electronic gateway to bill the subscribers for services of the content providers accessed by the subscribers via its billing for mobile telephone service.

Embodiments of the present invention also include methods and systems for performing a person-to-person electronic transaction. In one such embodiment, a request for person-to-person payment is received at an electronic portal from a first interface-enabled communications device. The user of the first interface-enabled communications devices provides identifying information (e.g., a user name and password). Communication from the first interface-enabled communications device comprising identification of a second communications device is also received. The portal then receives a transfer amount and payment method data from the first interface-enabled communications device. The portal determines a payment account issuer associated with the user of the first interface-enabled communications device by, for example, accessing an electronic wallet associated with the user of the first device. The portal then determines an account associated with the user of the second interface-enabled communications device, and sends a transfer authorization from the electronic portal to the payment account issuer comprising a money transfer request requesting a money transfer of the transfer amount from an account of the user of the first interface-enabled communications device to the account associated with the user of the second communications device. In an embodiment, the electronic portal receives confirmation of the money transfer from the payment account issuer, and sends the confirmation of the money transfer from the electronic portal to the first interface-

A variety of means of payment may be used with embodiments according to the present invention. Examples include credit card accounts, debit card accounts, savings accounts, checking accounts, and other payment accounts.

It is a feature and advantage of the present invention to provide a marketplace in which buyers utilize either a mobile or fixed wireless communication device, such as a browser-enabled wireless telephone, to initiate and complete a transaction, and in which buyers, sellers and their respective financial institutions meet virtually (as opposed to being in physical proximity) to complete a secure transaction where both trust and value are present.

It is an additional feature and advantage of the present invention to provide a method and system for performing a transaction using a wireless communication device, which enables customizing the product from a 'choice board', which is an interactive, on-line system that allows buyers to design their own products from a menu of attributes, components, prices, and delivery options utilizing the wireless communication device.

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communication device, which electronic wallet holds the buyer's personal information (such as, but not limited to, shipping and payment information) and automatically completes the fields in the merchant's order fulfillment database.

It is a still further feature and advantage of the present invention to provide  
5 a method and system for performing a transaction using a wireless communication  
device that enables authentication of the transacting parties, provides authorization  
for the transaction, ensures the integrity, privacy and confidentiality of information  
between the transacting parties, and non-repudiation of the transaction by parties  
to the transaction.

10 It is still another feature and advantage of the present invention to provide a method and system for performing a transaction using a wireless communication device which enables one individual to transact with or pay another individual who is not an acquired merchant of the system utilizing the wireless communications device.

To achieve the stated features, advantages and objects, an embodiment of the present invention provides a method and system for completion of a mercantile transaction which is defined as the exchange of information between the buyer and seller followed by the necessary payment an embodiment of the present invention uses an electronic gateway that connects the user, the merchant and their respective financial institutions using a combination of the wireless and wired networks. To access a wireless communication device service, the user must complete a service contract application with the wireless network operator. Through a mutual agreement, the services of the gateway operator are bundled with the network operators services, enabling seamless account opening for both services at the same time. The gateway operator provides the user with an electronic wallet that is stored inside the gateway, and accessed by the user from the user's wireless communication that is stored inside the gateway, and accessed by the user from the user's wireless communication device.

In an embodiment of the present invention, the electronic wallet is a secure container and storage space in which a user's shopping and payment information is stored. Supply chain technology developed by merchants and their suppliers are based on universal product codes (UPC), intranets, and databases. The gateway

operator acts as a merchant acquirer connecting the merchants product and order fulfillment databases via the wireless or wired Internet. The gateway operator supplies the merchant with a unique merchant code, that the merchant combines with their existing UPC. The merchant then places this code on their product price labels.

Another feature and advantage of embodiments of the present invention comprises providing a method and system for payment or funds transfer between two parties, neither of whom are acquired merchants of the system. It is a related feature and advantage of embodiments of the present invention to provide methods and systems whereby parties who are not in geographic proximity to one another to deliver payment to one another quickly.

Additional objects, advantages and novel features of the invention will be set forth in part in the description which follows, and in part will become more apparent to those skilled in the art upon examination of the following, or may be learned by practice of the invention.

### **BRIEF DESCRIPTION OF THE FIGURES**

FIG. 1 shows an embodiment of a system according to the present invention.

FIG. 2 shows further illustration of the system of FIG. 1.

FIG. 3 shows a flow diagram of steps according to the present invention carried out in the system of FIG. 1 and FIG. 2.

FIG. 4 shows an embodiment of a person-to-person payment transfer system according to the present invention.

FIG. 5 shows a flow diagram of steps according to the present invention carried out in the system of FIG. 4.

### **DETAILED DESCRIPTION**

Embodiments of the present invention include methods and systems for carrying out electronic commerce transactions using an electronic communications device, such as a mobile telephone. One such embodiment comprises a method and system for performing an electronic transaction via a mobile telephone using a transaction proxy with an electronic wallet.



FIG. 1 shows such a system according to the present invention. Referring to FIG. 1, an individual 5 is shown having an electronic communications device 10. In the embodiment shown, the electronic communications device is a mobile telephone 10. The mobile telephone 10 shown is interface enabled in that it includes the hardware, communications software, and browser software needed to access, receive, and browse content from the Internet. The telephone 10 includes a display screen for displaying content from the Internet. For example, a high-resolution liquid crystal display (LCD) is used as the display screen. where all the information is shown for the user. In other embodiments, the interface-enabled communications device comprises a personal computer having web-browser software, a personal digital assistant having web-browser software, or other electronic device.

The mobile telephone 10 is in communication with a wireless gateway 12. The wireless gateway 12 shown comprises a mobile switching center (or mobile telephone switching office) and communication facilities allowing the gateway to communicate via a computer network, such as the Internet. The wireless gateway 12 is in communication via the Internet with a transaction portal server 14 (or transaction proxy). The transaction portal server 14 includes files (software) comprising an electronic transaction portal 15.

The electronic transaction portal 15 comprises an electronic mall. The portal 15 comprises web pages of the type viewable on the display screen of the mobile telephone (e.g., HTML 1.0, a reduced HTML, or Wireless Application Protocol (WAP)), interactive content, and communication software for facilitating communication with the portal, and applications for carrying out processes by the portal, as described herein. A plurality of merchant web sites, including one on the shown merchant server 20, are accessible via the portal 15. As an example, the home page of the portal 15 includes a list of accessible, or participating, merchant sites. The merchant is shown as item 20, and includes a merchant web server in communication with the Internet.

The portal 15 includes check-out software that provides purchase interaction viewable on the display screen of a mobile telephone. In addition, in the embodiment shown, each of the merchants participating in the portal are given

such check-out software for inclusion on their merchant web site 21. The check-out software provided to the merchants is programmed to interact with the merchants' product database and order-fulfillment facilities. The check-out software residing on the web sites of the merchants is in communication with the portal. Moreover, pages of the portal provide hyperlinks to the web sites of various member merchants.

The transaction portal server 14 is in communication via the Internet with an electronic wallet server 16 comprising an electronic wallet application 17, which comprises electronic wallets of various persons.

In particular, the electronic wallet application 17 comprises the electronic wallet used by the mobile telephone user 5, and contains personal information of the user 5 (such as the user's name, address, and credit card number, type, and expiration date). In other embodiments, the electronic wallet application resides on the transaction portal server 14. The electronic wallet server 16 is in communication via the Internet with one or more credit card issuers, in particular the credit card issuer for the credit card of the mobile telephone user 5 indicated in the personal information of the user 5 contained in the electronic wallet used by the user 18. In the embodiment shown, the issuer 18 is a financial institution, namely a bank. Each of the subscribers to the wireless gateway 12 is provided an electronic wallet on the wallet server 16. In such an embodiment, the operator of the transaction portal may provide all subscribers to the wireless gateway membership in the portal based on the personal information obtained by the gateway operator, may request further information from the user directly or through the gateway operator, or may provide membership to only a pre-selected subset of subscribers. Each subscriber is assigned a unique user name (or identification number) and password for their electronic wallet. In the embodiment shown, the user name assigned comprises the mobile telephone number of the subscriber. The password is assigned at random, and may be changed by the subscriber. In an embodiment, the subscribers of the gateway 12 are automatically billed for their mobile telephone service via their electronic wallet on the server 16.

Additionally, the financial institution / operator of the portal issues each subscriber that becomes a member of the portal a payment product (e.g., a credit

card account or a debit account). Thus, rather than the users applying for a payment product from the financial institution, and having their credit checked by the financial institution, the payment product is issued automatically based on the information and/or credit check obtained by the operator of the wireless communications gateway. In an embodiment, the payment product is jointly issued with the operator of the wireless communications gateway.

The wireless subscriber is given the choice of accepting or declining membership in the portal and/or issuance of the payment product to the subscriber. The users can simply click to accept, and their acceptance is part of the terms and conditions of their use of the system for an embodiment of the present invention.

In the embodiment shown, the operator issues each subscriber a credit card number. The credit card number is assigned as the preferred means of payment in the electronic wallet of the subscriber. In an embodiment, to activate the wallet and the payment product, the subscriber must visit the electronic portal 15.

In an embodiment, when the mobile telephone user 5 has selected a product (or products) for purchase, and wishes to pay or “check out,” the user 5 clicks on (or activates) a wallet icon displayed on the display screen of the user’s mobile telephone 10 during the user’s visit to the electronic portal 15. The user 5 is then prompted for, and enters, the user’s user name and password to validate the user’s use of the electronic wallet. In an embodiment, a signal is then sent to the portal 15 by the electronic wallet application advising the portal 15 that a purchase is to be made of the product(s) selected by the user. The wallet 17 then accesses a database to determine the default (or preferred) payment method of the user, which in the embodiment shown comprises the payment product assigned by the operator the portal. The wallet 17 asks the user to confirm the payment means and the purchase by clicking an “Accept” icon. The assigned payment product account number, purchase amount, the shipping address, and other information needed to settle the transaction is sent by the wallet to in the standardized check-out software interface operated by the merchant 20 via the Internet 28. The merchant 20 uses the received information to be paid via the payment and settlement system associated with the payment product. For example, the merchant receives a VISA credit card number and purchase amount from the

wallet or portal, the merchant provides the credit card number and purchase amount to the merchant's acquiring bank, the acquiring bank contacts the issuer of the credit card for transaction approval and receives the approval, and the acquiring bank communicates the approval to the merchant. The merchant then ships the product purchased and the acquiring bank uses the settlement system to settle with the financial institution that issued the credit card associated with the received credit card number then uses the Visa to the card issuer, and credits the merchant's account with the purchase price.

In other embodiments, the user 5 may chose to use the payment product assigned by the operator of the portal, or may input data related to another means of payment (e.g., a different credit card) to carry out the transaction. Also, in other embodiments, the financial institution operating the transaction portal 15 may employ a proprietary, or closed, payment system with the merchants, whereby the purchases by the users are settled with the merchants by the financial institution operating the portal.

Both the transaction portal server 14 and the issuer 18 (via the merchant acquiring financial institution) are in communication with the merchant server 20 via the Internet. The merchant server 20 comprises data relating to goods and services offered for purchase by the merchant, and applications for receiving and crediting payment from the issuer as described. In another embodiment, the portal server 14 is in communication with the merchant via a dedicated circuit using Internet protocols.

Various communication between the user and the portal, the portal and the wallet, and the wallet and the merchant is discussed. Embodiments of the present invention employs encryption, such as public key infrastructure encryption (PKI) and/or secure sockets layer (SSL) protocol, for communication that calls for security. For example, the portion of the transaction in which the user confirms and enters his or her PIN number, and in which the wallet transfers credit card information and the user's name and address to the merchant, is encrypted in an embodiment.

FIG. 2 shows an illustration of the system of FIG. 1 that will be used to describe an initial embodiment of a method according to the present invention.

Referring to FIG. 2, the mobile telephone 10 is shown in communication with a transaction portal server 24 via a mobile network 30. The transaction portal server 24 shown comprises the transaction portal server 14 shown in FIG. 1 as well as the electronic wallet server 16 shown in FIG. 1. In other words, the transaction portal server 24 shown in FIG. 2 includes the electronic wallet 17 of the mobile telephone user. The mobile network 30 includes the wireless gateway 12 shown in FIG. 1.

FIG. 2 further shows the transaction portal 24 in communication with the merchant 20 via the Internet 28. The transaction portal 24 is also in communication with the issuer 18, which comprises a payment processor for receiving payment authorization signals and carrying out the settlement of transactions, including providing payment to merchants. The issuer 18 is also in communication with the merchant 20. In the embodiment shown in FIG. 2, the issuer 18 is in communication with the transaction portal server via the Internet, and is in communication with the merchant 20 via settlement network (not shown).

FIG. 3 shows a flow diagram of steps for performing an electronic transaction according to an embodiment of the present invention, as carried out in the system of FIG. 1 and FIG. 2. Referring to FIG. 3, a merchant 20 offers products for purchase from the merchant by consumers via various marketing channels 40, such as face-to-face (e.g., in a retail store or showroom) 32, catalog 34, Internet 36, and advertising 38 (e.g., print advertising, television advertising, and radio advertising). Other marketing channel examples include web pages displayed on a mobile telephone, billboard advertisements, telephone marketing systems (e.g., telemarketing), and handbills (not shown).

In the embodiment shown, a product code is shown (or mentioned) in association with at least some of the products offered for purchase by the merchant 42. For example, a product code may be shown beside a picture of a product in a catalog or on web pages, or a product code may be mentioned by an announcer in a radio advertisement. In the embodiment shown, the product code comprises a unique identifying number for each product (e.g., 47529), but product codes may also comprise short-hand descriptions or brand name of the product (e.g., STAR

SHOE, BOOT, or POPCORN), alphanumeric codes (e.g., AZ17), or other identifier.

In an embodiment, the unique product code is based on conventional product code systems that are prevalent in supermarkets and stores that are normally used for bar-coding or otherwise identifying products. An embodiment of the present invention provides additional digits to the front end of a conventional code, for example, in order to identify the specific merchant, so that the portal 17 can route the information to the specific merchant.

A consumer sees a product offered for purchase in one of the marketing channels. A consumer viewing a coat in a retail store will be used as an example. A product code of 11290529 is displayed next to the coat. In the embodiment shown, 112 indicates a particular merchant (the merchant operating the retail store and associated with the merchant server 20) and 90529 indicates a particular product (the coat). The consumer wishes to purchase the coat, but, for one of a number of possible reasons, it is undesirable to purchase the coat from the physical retail store at that time. For example, the consumer may be visiting from out of town, and may wish to purchase the coat, but may not wish to transport the coat. As another example, the retail store may not have the color coat that the consumer wishes to purchase, but the product code for the particular color desired by the consumer is shown.

The consumer activates the consumer's mobile telephone and accesses the transaction portal 15 present in the transaction portal server 24 via the mobile network. The consumer does so by clicking on (or activating) an icon on the display screen of the mobile telephone associated with the portal 15. The consumer views content from the portal 15 on a display screen of the mobile telephone. Content from the portal 15 sent to the mobile telephone 10 via the mobile network 30 prompts the consumer to provide a product code of interest. The consumer provides product code data comprising a product code of 11290529 (the code displayed in conjunction with the coat of interest) in response to the prompt, which is transmitted by the mobile telephone 10 to the transaction portal server 24 via the mobile network 30. The portal 15 receives the product code data provided by the mobile telephone (1129) 44.

After the portal receives the product code 44, the portal determines the merchant associated with the product code received 45. In the embodiment shown, the portal accesses a database in the transaction portal server comprising merchant identifying information correlated with product codes. The database  
5 indicates that merchant 20 is associated with product code 1129.

In other embodiments, there may be multiple merchants associated with a particular product code. That is, multiple merchants subscribing to, or associated with, the portal 15 may offer the product indicated by the provided product code. The portal may determine a merchant to associate with the potential product  
10 purchase by any one of a variety of methods. For example, the portal 15 may select one of merchants associated with the product at random. As another example, the portal 15 may evenly distribute accesses relating to the product code among the several merchants. As still another example, the portal 15 may employ a particular algorithm having a variety of factors (e.g., fee paid to the portal  
15 operator, preference factors, and a number of selections).

Also, in another embodiment, the portal or the merchant web site presents the user of the mobile telephone with a "choice board" for display on the display screen of the mobile telephone. The choice board comprises an interactive, on-line system that allows buyers to design their own products from a menu of  
20 attributes, components, prices, and delivery options utilizing the mobile telephone. The user selects the various attributes desired by the user, and the attributes are communicated to the portal.

Referring again to FIG. 3, once the portal determines the merchant associated with the product code received 45 (in the present case, merchant 20),  
25 the portal 15 accesses a product data database at a web server of the merchant 20 via the Internet 46. The product data database contains information about the product associated with the 1129 product code, and the portal 15 retrieves such information from the database. Examples of information about the product contained in the database and retrieved by the portal is a short description of the  
30 product (e.g., winter coat), a brand name of the product, a size, and a color. In other embodiments, such a database may reside on the transaction portal server 24. In an embodiment, the portal 15 is in communication with the product database

and order fulfillment systems of a merchant via the check-out application (software) residing on the merchant server 20.

Once the portal 15 accesses the product data base and retrieves data relating to the product associated with the product code received (11290529) 46, the portal 15 sends the product data to the mobile telephone 48 via the mobile network 30. The mobile telephone 10 receives the product data from the portal 15, and displays the product data on the display screen of the mobile telephone for viewing by the consumer (or user of the mobile telephone). The consumer views the product data displayed – short description of the product, brand name, size, and color. The consumer determines that the product data displayed corresponds to the product that the consumer wishes to purchase, and provides a signal to the portal using the mobile telephone that the consumer wishes to purchase the indicated product. In the embodiment shown, the consumer so indicates by pressing “1” on the consumer’s mobile telephone in response to the display of the product data and the prompt of “Press 1 if you wish to purchase this product, Press 2 to provide another product code”. The mobile telephone 10 sends the purchase indication to the portal 15 via the mobile network 30.

In another embodiment, the product data comprises the various options available to the consumer for the product associated with the product code received. For example, the product data may comprise the colors in which the coat is available (green, gray, blue), the sizes available (M, L, XL), and the pricing of each option. The consumer views the product data and decides which of the options available that the consumer desires. When the consumer sends the purchase indication to the portal 15, the purchase indication comprises the consumer's indication of which of the options the consumer desires (e.g., gray coat, size XL).

The portal 15 receives the purchase indication from the mobile telephone 10, and accesses an electronic wallet 17 of the mobile telephone user 52. In the embodiment shown, the electronic wallet accessed is located on the transaction portal server, but in alternative embodiments the electronic wallet is located on a different server. In an embodiment, the purchase indication comprises identifying



The electronic wallet 17 comprises payment data related to the user 5 previously entered by the user. For example, the wallet contains a preferred method of payment comprising a credit card type, number, and expiration date for the user 5, and also contains shipping detail data (a shipping address), as well as user-identifying information (e.g., name and e-mail address). The payment data from the wallet is displayed to the user 5 on the mobile telephone display. The user may select the information shown as correct (the shipping address and payment method) or may alter it to provide different shipping detail data and different method of payment selection. For example, if the user of the mobile telephone 10 wishes to change the designated recipient in the shipping detail data from the user's name and address to another person's name and address, the user may do so using the keypad of the mobile telephone 10. Moreover, the wallet may contain multiple, alternative shipping addresses (home, work, relative, pick-up address), and the user may chose from one of those addresses. In addition, the wallet may contain previously-entered information related to various payment options (e.g., various credit card numbers and related information, and various debit card numbers and related information). The user may chose from any one of the shown options, or enter a new method of payment.

In an embodiment, the shipping detail data may comprise “Immediate Pick-Up.” For example, the user in a retail store may wish to provide the product information via the user’s mobile telephone as above, continue shopping for a short while, and then pick the coat up at the front desk to carry with the user.

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54, 56. The portal 15 then transmits payment authorization to a payment processor 58. In the embodiment shown, the payment processor 18 is the issuer of the credit card reflected in the payment option data. The payment authorization transmitted to the payment processor 18 includes data identifying the user (e.g., the name from the electronic wallet), data identifying the merchant from which the product is being purchased, and data relating to the product purchased (e.g., a purchase price and an identifier). The payment processor 18 receives the data and provides authorization to the portal 15. The payment processor 18 then arranges for payment to be delivered to an account of the indicated merchant for the purchase price indicated via a settlement network.

The portal 15 also transmits order information to the merchant 20. In the embodiment shown, the order information is sent to the check-out application (software) residing on the merchant's web site. In the embodiment shown, the portal 15 causes the wallet 17 to automatically complete the fields in the merchant's order fulfillment database. Order information includes purchaser identification (e.g., name, address, e-mail address), product identification (e.g., product code), shipping instructions (e.g., shipping address), the authorization from the issuer, and payment option data comprising description of the means of payment (e.g., credit card number, type, and expiration date) 60. The payment option data sent to the check-out application comprises information from the electronic wallet of the mobile telephone user 5. The merchant 20 receives the data, and arranges to fulfill the order per the shipping instructions. In an embodiment, the electronic wallet of the user residing on the portal transmits the order information to the merchant 20.

The merchant 20 provides an order confirmation to the purchaser 62. In the embodiment shown, the merchant provides a confirmation page showing a order identification number to the portal 15, which provides the page to the mobile telephone 10. In other embodiments, the merchant 20 uses the e-mail address of the purchaser as received to provide a confirming e-mail.

The confirmation provided by the merchant may be provided by other means. For example, the confirmation may be provided by a pre-recorded voice telephone call or by sending a confirming web page to the purchaser. The various

confirmations discussed herein may be provided by e-mail or these other means, as well.

As mentioned, the payment processor 18 initiates a settlement of the transaction with an account of the merchant 64 using a settlement network. In this way, the merchant 20 receives payment from the user for the ordered product.

Numerous products may be purchases using the method and system for an embodiment of the present invention. Examples include train tickets, airline tickets, books, music, lawn services, and other products.

In the embodiment shown, the operator of the wireless gateway 12 and the operator of the portal 15 have entered into a joint venture in relation to the portal. The operator of the portal 15 is also the operator of the electronic wallet application 17. The operator of the wireless gateway comprises a mobile telephone network operator and the operator of the portal 15 and the electronic wallet 17 comprises a bank. In the embodiment shown, the bank provides the credit and financial services related to the joint venture, including the check-out software made available to the merchants, as well as providing the portal, and the mobile telephone network operator provides the merchant relationships and a customer base. The mobile telephone network operator also contributes its knowledge of the name and addresses of its subscribers, as well as their credit ratings.

The portal 15 serves as a Internet portal to Internet content providers that users of mobile telephones associated with the gateway 12 (i.e., subscribers) may access with the browsing function of their telephones. The portal 15 comprises hyperlinks to the web sites of such content providers and includes hyperlinks to pages within the portal 15 that includes content from at least some of the content providers. Examples of content includes information, news, offers for the purchase of goods and services, advertising, pictures, graphics, video communication, and other e-commerce offers. The content providers have contracted with the operator of the electronic gateway to provide content and to provide a commission payment to the operator of the electronic gateway when the operator's subscribers access the content and/or pay for services offered by the content provider. Moreover, the content providers have contracted with the

operator of the electronic gateway to bill the subscribers for services of the content providers accessed by the subscribers. The operator of the electronic gateway provides such billing to its subscribers via its billing for mobile telephone service.

5           In one such joint-venture embodiment, the users of (or subscribers to) the wireless service offered by the operator of the wireless gateway 12 are invited to become members of the portal (i.e., invited to use the portal and, in the embodiment shown, to receive a user name and password that allows access to the portal). When the operators of the gateway and the portal enter into the joint  
10 venture, the current subscribers of the gateway are invited to become members of the portal, and subscribers joining the gateway service at a later date are invited upon subscribing. Use of the portal 15 is offered as an additional feature to the services provided to the subscriber on subscribing to the service offered by the operator of the communications gateway 12.

15           In one such joint-venture embodiment, the transactions that may be carried out at the content providers using the portal 15 system are limited to transactions involving a maximum amount (e.g., three dollars) in order to limit the transactions to micro-payments. In addition, in an embodiment, the bank provides payment to the mobile telephone network operator in the form of a portion of the bank's  
20 issuer's interchange fee.

Embodiments of the present invention also facilitate person-to-person payments, i.e., facilitates one individual providing money to a second individual electronically and without passing physical cash or check. FIG. 4 shows such an embodiment according to the present invention. The system shown in FIG. 4 has  
25 several common elements with the system shown in FIG. 2. Referring to FIG. 4, a first interface-enabled communications device comprising a first mobile telephone 10 is shown in communication with the transaction portal server 24 via the mobile network 30. Like the system in FIG. 2, the transaction portal server 24 is in communication with the payment processor 18 via the Internet.

30           In the embodiment shown in FIG. 4, the transaction portal server 24 is in communication with a second electronic communications device 11, a second mobile telephone labeled "Recipient." In the embodiment shown, the first

communications device 10 is located in the United States and the second communications device 11 is located in Japan. The transaction portal server 24 and the second mobile telephone 11 are in communication via a mobile network 31, which, in the embodiment shown, is the same network 30 that connects the first mobile telephone 10 and the transaction portal server 24. In other embodiments, the two mobile networks 30, 31 are separate networks.

FIG. 5 shows a flow diagram of steps for performing an electronic transaction according to an embodiment of the present invention, as carried out in the system of FIG. 4. In the embodiment shown, both the user of the first and second mobile telephones 10, 11 shown in FIG. 4 are registered with the transaction portal 15. That is, the transaction portal 15 has previously received and stored their names, addresses, mobile telephone numbers, further identifiers (e.g., user names and passwords), and bank account numbers.

Referring to FIG. 4, the user of the first mobile telephone 10 wishes to provide a payment to the user of the second mobile telephone 11. The user of the first mobile telephone asks the user of the second mobile telephone for that user's telephone number, which the user of the second mobile telephone provides. The user of the first mobile telephone also asks the user of the second mobile telephone for a further identifier, namely that user's user name for the electronic transaction portal, which the user of the second mobile telephone provides. The user of the first mobile telephone, an interface-enabled mobile telephone, uses the telephone to access the electronic transfer portal 15 via the mobile network 30.

Referring to FIG. 5 (and FIG. 4), the electronic transfer portal 15 provides web content to the first mobile telephone 10 displaying a service selection choice to the user 68. The service selection choice is displayed on the display screen of the first mobile telephone, and includes a selection for person-to-person payment. In the embodiment shown, the service selection is displayed in the form of "If you would like to undertake a person-to-person payment, press 1."

The user of the first mobile telephone 10 indicates a request for person-to-person payment by pressing "1," which is transmitted to the electronic transfer portal 15 via the mobile network 30. The electronic transfer portal 15 receives the request for person-to-person payment from the first mobile telephone 70. The

portal 15 then prompts the user of the first mobile telephone for the user's user name and password associated with the portal 15. The portal 15 compares the user name and password provided with a database of valid user names and passwords, and authorizes use of electronic portal upon determining that the provided user name and password are valid 66.

The portal 15 then prompts the user of the first mobile telephone for identification of the recipient of the requested payment 71. The portal 15 does so by transmitting to the first mobile telephone a page requesting the telephone number of the recipient and the user name of the recipient. The user 5 types in the requested information into the first mobile telephone, and transmits the information to the portal 15 via the mobile network 30.

The portal 15 receives from the first mobile telephone the data comprising identification of a second mobile telephone in the form of the telephone number for the second mobile telephone 72. The portal also receives the user name provided as confirmation of the user of the second mobile telephone as the recipient of the requested payment. The portal 15 compares the telephone number and user name provided by the user of the first mobile telephone with a database of registered users of the portal 15. The portal 15 determines that the user name is the user name associated with the telephone number provided, and thereby confirms the identification of the second mobile telephone as that of the intended recipient 74. This confirmation is sent to the first mobile telephone via the mobile network 30. Note that it is not necessary for the recipient to have his or her wireless telephone switched on to receive payment.

The portal 15 then determines an electronic wallet associated with the user of the first mobile telephone 75. The portal 15 does so by accessing a database in the portal 15 that identifies the wallet associated with the user. In the embodiment shown, the user's wallet resides on the electronic transfer server 24. The portal 15 accesses the electronic wallet associated with the user of the first mobile telephone and determines the preferred payment method of the user. In the embodiment shown, the method comprises using a credit card, and the credit card type, number, and expiration date are provided in the wallet, as accessed by the portal 15.

In the embodiment shown, the electronic wallet 15 associated with the payer stores information collected by the operator of the electronic communications gateway 12 when a mobile phone is sold to a customer. The application seeks information that the customer wishes to store in the customer's electronic wallet. The customer may add to or edit the electronic wallet information at any time via the customer's mobile telephone or via the Internet.

The portal 15 reminds the user of the preferred payment method from the wallet by so indicating on a page provided to the first mobile telephone. Other types of payment methods, e.g., a debit account, may also be used. The user of the first mobile telephone indicates to the portal 15 that the user wishes to use the preferred payment method from the wallet (the credit card account).

The portal 15 then prompts the user of the first mobile telephone for a transfer (or payment) amount (in dollars) and an indication of payment method 76. In the embodiment shown, the portal 15 does so by transmitting a page for display on the first mobile telephone's display screen requesting that the user type in a transfer amount and press a number indicative of the method of payment. The first number indicates the method indicated in the electronic wallet. The user of the first mobile telephone types in US\$125.00 into the transfer amount field and presses "1" to indicate that the user wishes to use the payment method (credit card) indicated in the electronic wallet, which is transmitted to the portal 15 via the mobile network 30.

The portal 15 receives the transfer amount and indication of a payment method 77. The portal 15 then determines a payment account issuer associated with the payment method selected and the user of the first mobile telephone (i.e., the credit card issuer) 78. The portal 15 does so by examining the credit card number.

The portal 15 next determines an account associated with the designated recipient of the payment, i.e., the user of the second mobile telephone 80. The portal does so by accessing a database on the electronic transfer server containing the account number for the payment receipt account designated by the recipient. Such an account number was provided by the user of the second mobile telephone when signing up for the service provided by the operator of the electronic

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